

PATENT  
App. Ser. No.: 10/057,188  
Atty. Dkt. No. ROC920010309US1  
PS Ref. No.: IBMK10309

**LISTING OF THE CLAIMS:**

1. (Original) A method of programmatically starting a node in a clustered computer system, comprising:
  - assigning a starting state value to the node;
  - initiating an automated discovery process for discovering a sponsor node in the clustered computer system;
  - starting the node as a one-node cluster in the clustered computer system if no sponsor node is discovered;
  - joining the node into the clustered computer system if the sponsor node is discovered; and
  - assigning the node a state value of active by the clustering infrastructure.
2. (Original) The method of claim 1, wherein the sponsor node has one of an active state value and a starting state value.
3. (Original) The method of claim 2, wherein the sponsor node has a name lower than the name of the node if the sponsor node has a starting state value.
4. (Original) The method of claim 1, wherein discovering a sponsor node in the clustered computer system to sponsor the node into joining the clustered computer system comprises:
  - sending a cluster ping message to one or more potential sponsor nodes in the clustered computer system;
  - receiving a response from the one or more potential sponsor nodes;
  - selecting from the response the first potential sponsor node having a state value of active as the sponsor node to sponsor the node into joining the clustered computer system; and
  - if no potential sponsor node having a state value of active responds to the cluster ping message, then selecting from the response a potential sponsor node having a

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state value of starting and having a name lower than the name of the node as the sponsor node.

5. (Original) The method of claim 4, wherein starting the node as a one-node cluster in the clustered computer system if no sponsor node is discovered comprises starting the node as a one-node cluster in the clustered computer system if the one or more potential sponsors have a state value of starting and a name higher than the name of the node.

6. (Original) The method of claim 4, further comprising starting the node as a one-node cluster in the clustered computer system if no response is received from the one or more potential sponsor nodes.

7. (Original) The method of claim 4, further comprising starting a clustering infrastructure of the node, wherein starting the clustering infrastructure of the node comprises:  
starting the cluster control; and starting the cluster communications by the cluster control.

8. (Original) The method of claim 7, wherein the discovering is performed by the clustering infrastructure of the node.

9. (Original) The method of claim 7, wherein the cluster control has a membership list containing the one or more potential sponsor nodes in the clustered computer system; wherein starting the cluster communications by the cluster control comprises transferring the membership list to the cluster communications by the cluster control; and wherein the cluster ping message is sent to the one or more potential sponsor nodes contained in the membership list.

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10. (Original) The method of claim 1, wherein the sponsor node is discovered from a membership list containing all nodes in the clustered computer system.

11. (Original) The method of claim 7, wherein the cluster ping message is sent to the one or more potential sponsor nodes in the clustered computer system by the cluster communications.

12. (Original) The method of claim 7, wherein the node is assigned the state value of starting by the cluster communications.

13. (Original) The method of claim 7, wherein the node is assigned the state value of active by the cluster communications.

14. (Original) The method of claim 1, wherein the clustered computer system is a decentralized clustered computer system.

15. (Original) A computer program for starting a node in a clustered computer system embodied in a computer readable medium, the node having a clustering infrastructure, the computer program comprising:

a code segment for starting the clustering infrastructure of the node;

a code segment for assigning the node a state value of starting by the clustering infrastructure;

a code segment for discovering, by the clustering infrastructure, a sponsor node in the clustered computer system to sponsor the node into joining the clustered computer system;

a code segment for starting the node as a one-node cluster in the clustered computer system if no sponsor node is discovered;

a code segment for joining the node into the clustered computer system if the sponsor node is discovered; and

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a code segment for assigning the node a state value of active by the clustering infrastructure.

16. (Original) The computer program of claim 15, wherein the sponsor node has a state value of active or a state value of starting; and wherein the sponsor node has a name lower than the name of the node if the sponsor node has a state value of starting.

17. (Original) The computer program of claim 15, wherein the code segment for discovering, by the clustering infrastructure, a sponsor node in the clustered computer system to sponsor the node into joining the clustered computer system comprises:

a code segment for sending a cluster ping message to one or more potential sponsor nodes in the clustered computer system by the clustering infrastructure;

a code segment for receiving a response from the one or more potential sponsor nodes;

a code segment for selecting from the response the first potential sponsor node having a state value of active as the sponsor node to sponsor the node into joining the clustered computer system; and

a code segment for if no potential sponsor node having a state value of active responded to the cluster ping message, then selecting from the response the potential sponsor node having a state value of starting and having a name lower than the name of the node as the sponsor node to sponsor the node into joining the clustered computer system.

18. (Original) The computer program of claim 17, wherein the code segment for starting the node as a one-node cluster in the clustered computer system if no sponsor node is discovered comprises a code segment for starting the node as a one-node cluster in the clustered computer system if the one or more potential sponsors have a state value of starting and a name higher than the name of the node.

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19. (Original) The computer program of claim 17, further comprising a code segment for starting the node as a one-node cluster in the clustered computer system if no response is received from the one or more potential sponsor nodes.

20. (Original) The computer program of claim 17, wherein the clustering infrastructure comprises cluster control and cluster communications.

21. (Original) The computer program of claim 20, wherein the code segment for starting the clustering infrastructure of the node comprises:

- a code segment for starting the cluster control; and
- a code segment for starting the cluster communications by the cluster control.

22. (Original) The computer program of claim 18, wherein the cluster control has a membership list containing the one or more potential sponsor nodes in the clustered computer system; and wherein the code segment for starting the cluster communications by the cluster control comprises a code segment for transferring the membership list to the cluster communications by the cluster control.

23. (Original) A node, comprising:

- a memory containing a node-starting program;
- a processor which, when executing the node-starting program, performs an operation comprising:
  - assigning a starting state value to the node;
  - initiating an automated discovery process for discovering a sponsor node in the clustered computer system;
  - starting the node as a one-node cluster in the clustered computer system if no sponsor node is discovered;
  - joining the node into the clustered computer system if the sponsor node is discovered; and
  - assigning the node a state value of active by the clustering infrastructure.